UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,416	10/23/2003	Seung Hyun Yoon	2013P109	1910

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EXAMINER
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ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/693,416	YOON ET AL.
	Examiner	Art Unit	
	Venkatesh Haliyur	2619	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _27 August 2007_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-16 (Claim 16 canceled)_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _8/27/2007_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All b)☐ Some * c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The amendment filed on 08/27/2007 is insufficient to overcome the rejection of

claims 1-16 based upon Veres et al. as set forth in the last office action of 05/24/2007.

However a new ground(s) of rejection has been made in this office action in view of

Veres et al. and a newly found reference Kloth. Rejection follows.

2.   Claims 1-16 are pending in the application. Claim 16 canceled.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious at the
> time the invention was made to a person having ordinary skill in the art to which said subject matter
> pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Veres et al. [US Pat: 6,807,156] in view of Kloth [US Pat: 6,598,034].

Regarding claim 1, Veres et al in the invention of "Scalable Real-Time Quality of

Service Monitoring and Analysis of Service Dependent Subscriber Satisfaction in IP

Networks" disclosed a traffic measurement system **(Figs 3-4)** comprising: a plurality of

measurement devices **(probes or processes monitoring traffic at points A & B of**

Fig 3) that collect packets flowing through Internet links between routers **(monitors A &**

B monitoring links between routers, Fig 3, col 8, lines 51-65), extract **(capture)**

traffic data required to analyze traffic from the collected packets **(item 120 of Fig 4)**,

and process the extracted data into predetermined flow types **(microflows, col 8,lines**

66-67,col 9, lines 1-5); and an analysis server that identifies applications **(subscriber**

identification and applications) of traffic by analyzing the traffic data transferred from

the plurality of measurement devices as a whole **(col 9, lines 6-10)**, classifies the

identified applications into predetermined traffic types, and outputs the classification

result **(col 9, lines 10-12)**, but fails to disclose analyzing the traffic data includes

analyzing payload data included in the traffic data. However, Kloth in the invention of

"Rule Based IP Data Processing" disclosed a method for analyzing the payload data of

an IP traffic flow coming into the routing engine for classifying the packet **(col 10, lines**

17-19, col 2, lines 15-20, col 2, lines 43-45). Therefore it would have been obvious for

one of ordinary skill in the art at the time the invention was made to include the method

of analyzing the payload data of the traffic data as taught by Kloth in the system of

Veres et al to analyze every part of the traffic data packet to accurately classify the

packets in to predetermined application type. One is motivated as such in order to

accurately classify the packets by analyzing the payload data included in the traffic data

to minimize the drop rate of the packets to enhance the quality of service.

Regarding claim 2, Veres et al disclosed that a plurality of time receiving devices that extract time signals from a GPS satellite or a CDMA base station to synchronize the times of the plurality of measurement devices **(col 2, lines 50-53).**

Regarding claim 3, Veres et al disclosed each of the plurality of measurement devices comprises: a packet collection unit that collects the packets flowing through the Internet lines from router connection lines and records the collection times of the packets **(packet filtering process, item 120 of Fig 4, col 8, lines 66-67, col 9, lines 1-5)**; a flow generation unit **(item 140 of Fig 4)** that generates flows using the packets having the same data **(microflow processor, item 130 of Fig 4)**, including a target address, a protocol, and a port number **(col 6, lines 21-26)**, from the packets collected by the packet collection unit **(captured packets stored in shared memory for flow identification, col 9, lines 6-13)**, extracts data required for detailed analysis of the applications after analyzing the contents of the packets **(col 6, lines 20)**, and stores the extracted data according to the flow **(database of monitored microflows)**; and a transfer unit that transfers the data stored in the flow generation unit to the analysis server according to a predetermined time interval **(col 9, lines 14-45).**

Regarding claims 4-5, Veres et al disclosed that the packet collection unit collects the packets by using one of tapping **(probing or sniffing)**, port mirroring **(application dependent port, FTP, HTTP, TCP, col 3, lines 18-33)** and signal distribution and the data required for detailed analysis of the applications are application signatures **(service dependent applications, RTP, FTP, WWW etc.,)** for identifying the applications in payload of the packets **(col 4, lines 44-61).**

Regarding claim 6, Veres et al disclosed wherein the analysis server **(microflow**

processor, item 130 of Fig 4) comprises: a data receiving unit **(network interface and**

shared memory, item 110 of Fig 4, col 9, lines 14-29) that receives the packet data

from the plurality of measurement devices **(probes or processes monitoring traffic at**

points A & B of Fig 3); a traffic analysis unit **(prefiltering processor, item 120 of Fig**

4) that analyzes the data provided from the plurality of measurement devices via the

data receiving unit as a whole **(col 9, lines 30-45)**, and classifies the applications into

the traffic types **(WWW, FTP, Streaming Media, VoIP application dependent**

module, item 140 of Fig 4, col 9, lines 5-13) according to the analysis result; a data

storing unit **(database of monitored subscribers/microflows, Fig 4)** that stores the

traffic analysis result **(delay, throughput, efficiency, packet loss etc.,)** of the traffic

analysis unit; and a user interface that displays the traffic analysis result stored in the

data storing unit to a user after processing the traffic analysis result into various types

desired by the user **(user reports, col 4, lines 44-67)**.

Regarding claim 7, Veres et al disclosed that the analysis server further

comprises a report output unit **(report, item 140 of Fig 4)** that processes the traffic

analysis result from the traffic analysis unit into a predetermined report type **(col 5,**

lines 31-67) and stores the processed data in the data storing unit **(database of**

monitored subscribers/microflows, Fig 4), and the report is displayed (microflow

record) to the user through the user interface **(col 11, lines 23-29)**.

Regarding claim 8, Veres et al disclosed that the traffic types comprise: a first

traffic type **(TCP)** whose applications are identified using only TCP/UDP port numbers

(col 9, lines 30-37); a second traffic type (IP) whose applications are identified by

collecting application headers and application signatures (service dependent

applications, RTP, FTP, WWW etc.,) that are included in payloads of the packets (col

9, lines 31-33); a third traffic (UDP) type whose applications are identified by extracting

application data from the second traffic type (prefilteration), since application data is

not included in reverse traffic of the second traffic type (col 9, lines 46-54); a fourth

traffic type (RTP) whose applications are assigned predetermined port numbers are

identified based on application signature of other flows since the port numbers are

exchanged through an other control flows; and a fifth traffic type (VoIP, item 140 of Fig

4) whose applications are not classified into the first through the fourth traffic types (col

9, lines 60-67).

Regarding claim 9, Veres et al disclosed a traffic analysis method performed in a

traffic measurement system (probes or processes monitoring traffic at points A & B

of Fig 3) that collects packets flowing through Internet links between routers (monitors

A & B monitoring links between routers, Fig 3, col 8, lines 51-67), analyzes traffic,

and identifies the applications of the packets (col 9, lines 1-29), the method comprising:

classifying a first traffic type (TCP) whose applications are identified using only port

numbers included in flow data that is processed into a predetermined type (col 6, lines

21-26); classifying a second traffic type (IP) whose applications are identified by

collecting application headers and application identifiers in the packets, from the flow

data remaining after the first traffic type is classified (col 9, lines 30-41); classifying a

third traffic type (UDP) whose applications are identified by analyzing the flow data

remaining after the second traffic type is classified **(col 9, lines 1-4)** and reverse-

direction flow data **(both directions of traffic stream)** of the flow that are measured at

different points as a whole **(col 10, lines 50-57)**; classifying a fourth traffic type **(RTP)**

whose applications are identified by analyzing the flow data remaining after the third

traffic type is classified and flow data measured at different points, since port numbers

for the applications are not predetermined **(col 10, lines 62-67, col 11, lines 1-2)**; and

classifying a fifth traffic type **(VoIP, item 140 of Fig 4)** whose applications cannot be

identified using the flow data remaining after the fourth traffic type is classified **(col 9,**

lines 60-67), but fails to disclose that applications are identified by collecting application

headers and application signature that are included in payload of the packets. However,

Kloth disclosed a method for analyzing the payload data and classifying an IP traffic

flow coming into the routing engine by collecting application headers and application

signature **(packet header and data pattern, col 4, lines 38-56)** that are included in

payload of the packets **(col 10, lines 17-19, col 2, lines 15-20, col 2, lines 43-45)**.

Therefore it would have been obvious for one of ordinary skill in the art at the time the

invention was made to include the method of analyzing the payload data and classifying

an IP traffic flow coming into the routing engine by collecting application headers and

data pattern as taught by Kloth in the system of Veres et al to analyze the payload data

by collecting application headers and application signature that are included in payload

of the packets. One is motivated as such in order to analyzing the payload data and

classifying an IP traffic flow by collecting application headers and application signature

that are included in payload to efficiently identify the predetermined application of the

data traffic to improve the throughput of the system.

Regarding claim 10, Veres et al disclosed the flow data is packets having the

same target address **(destination port),** the same protocol **(FTP)**, and the same port

number among the packets flowing through the Internet lines **(col 11, lines 34-45).**

Regarding claim 11, Veres et al disclosed determining whether identification data

of the fourth traffic type **(RTP)** is present in traffic included classified into the first traffic

type **(TCP)** and extracting and storing the application signature of the fourth traffic type,

after classifying the first traffic type **(col 9, lines 30-37, Fig 4).**

Regarding claims 12-13, Veres et al disclosed extracting and storing the

application signature of traffic classified into the third traffic type **(UDP)** when traffic

classified into the second traffic type **(IP)** is backward traffic of traffic classified into the

third traffic type, after classifying the second traffic type **(col 10, lines 50-67)** and

determining whether identification data of the fourth traffic type **(RTP)** is present in traffic

classified into the second traffic type and extracting and storing the application signature

(service dependent applications, RTP, FTP, WWW etc.,) of the fourth traffic type,

after classifying the second traffic type **(col 11, lines 1-12, Fig 4).**

Regarding claims 14-15, Veres et al disclosed taking statistics on traffic classified

into the fifth traffic type **(VoIP/RTP for voice)** in order to monitor the applications and

storing the statistics result, after classifying the fifth traffic type **(col 15, lines 49-55)** and

processing the classified traffic types into predetermined report types desired by a user

and storing or providing the processed report through a user interface, after classifying

the fifth traffic type **(col 15, lines 57-63, Fig 8c).**

Response to Arguments

5.   Applicant's arguments filed on 08/27/2007 with respect to rejection of claims 1-16

have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

7.   Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached @ (571)-272-7884. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

8.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Venkatesh Haliyur

Patent Examiner

UH 11/07/07

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SUPERVISORY PATENT EXAMINER